Assistant Secretary for Environment, Safety and Health

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SYNERGY E&H

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Straight Talk with Dr. Paul J. Seligman, Deputy Assistant Secretary for Health Studies

On September 8, the Synergy staff interviewed Dr. Paul J. Seligman, Deputy Assistant Secretary for Health Studies, at his office in Germantown, Maryland. Dr. Seligman is a commissioned officer in the U.S. Public Health Service, who worked at the National Institute for Occupational Safety and Health (NIOSH) before coming to the Department of Energy (DOE). During that time, he served as Chief of the Medical Section of the NIOSH Surveillance Branch for 5 years. He was also a Congressional Fellow for Health Policy, where he helped draft and analyze the proposal for health care reform legislation. Dr. Seligman has participated in several international activities, including the Environmental Protection Agency Interagency Task Force's investigation of air pollution effects caused by the oil well fires in Kuwait and establishment of occupational health surveillance programs in Taiwan. From 1974 through 1976, he was a U.S. Peace Corps volunteer in Kenya. Since coming to DOE, Dr. Seligman has directed the Office of Health Studies' programs for domestic and international health activities, including occupational medicine, health surveillance, and epidemiology. In this position, he directs the development of policies and standards for the Department's occupational medicine clinics and medical surveillance programs, including efforts to screen for beryllium disease among current and former DOE workers and identify any other work-related health conditions among former workers. Dr. Seligman's office supports the development of studies concerning the community and worker health impacts of nuclear weapons production, as part of the office's domestic epidemiology program, and efforts to communicate the resulting health information to workers and the public. In addition, he provides leadership in the office's efforts to develop epidemiologic research strategies focused on prevention of illness and injury. In the

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In Memory of Raymond F. Pelletier

The Office of Environment, Safety and Health recently lost one of its most respected and valuable employees. Raymond F. Pelletier, who was the Director, Office of Environmental Policy and Assistance, EH-41, passed away on July 13, 1998. Ray had been on medical leave since January 1998, to spend time with his family and to undergo treatment for cancer. A native of Maine, Ray was a proud civil servant for 27 years—the last 18 years with the Department of Energy. Some of Ray's many contributions were recognized with the Secretary of Energy Silver Medal Award in 1996 and the Presidential Meritorious Rank Award in 1997. To those who worked with Ray, he was known as the consummate professional. Ray will be remembered most for his high degree of integrity, his dedication to his job and family, and his sense of humor.

In this issue . . .

ES&H SYNERGY

ES&H Synergy is a quarterly newsletter published by DOE's Office of Environment, Safety and Health (EH) to promote awareness and information exchange of all environment, safety, and health issues impacting DOE personnel and contractors. Each issue highlights Headquarters and field initiatives in environment, health physics, nuclear and facility safety, occupational medicine, and occupational safety and health. To be added to the distribution list or to receive a copy of this publication, call 1-800-473-4375. Synergy is also available electronically through Technical Information Services at http://tis.eh.doe.gov/docs/synergy/synergy.html.

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international arena, the Office of Health Studies, under Dr. Seligman's direction, funds and oversees international studies such as the Radiation Effects Research Foundation in Japan; community and occupational health studies in and around the Mayak nuclear weapons in Russia; and post-Chernobyl studies in Belarus and the Ukraine. Providing health services to the Marshall Islanders who were exposed to radiation as a consequence of atmospheric nuclear testing in the Pacific is yet another departmental effort performed under Dr. Seligman's direction. Dr. Seligman's responses during our interview reflect both his enthusiasm for the Department's efforts in the occupational and public health area and his dedication to meeting the challenges presented in achieving the goals of the Department and his office.

QUES: As Deputy Assistant Secretary for Health Studies and as a Public Health Officer, what do you think are the most important health issues currently facing DOE?

ANS: I think there are a series of issues. Clearly the one that confronts us most immediately is health issues related to the change in the mission of the Department. In this past decade we have moved from a Department that was primarily concerned with nuclear weapons production to one that is now dealing with the aftermath or legacy of that production—not only in terms of environmental cleanup, but also in terms of the health consequences to workers and to the communities surrounding our sites. I think that what we are faced with primarily is how best to ensure that remediation and decomissioning and decontamination work is performed safely by our current workforce and how to ensure that we adequately and appropriately document the consequences of nuclear weapons production—both for the communities that are around our sites and for those who worked for the Department in the past and are working for us now. In my mind those are the most important, critical issues: ensuring safe work for our current workforce and documenting as best we can the legacy of the potential health consequences of our past work.

QUES: What critical roles do you see the Office of Health Studies playing in responding to those issues?

ANS: I think there are two major roles that we play. First—as is embodied in our name, "Health Studies"—we basically support research and public health activities in and around our sites that are related to the consequences of nuclear weapons production. We support dose reconstruction studies to document the levels and types of environmental contamination around our sites and the potential routes of exposure to community members living around our weapons sites. We work closely with the Centers for Disease Control and Prevention (CDC) and state health departments responsible for managing these dose reconstruction studies to determine if anything more needs to be done in terms of environmental cleanup or followup health studies for those communities. For example, as a consequence of the Hanford environmental dose reconstruction study, CDC embarked on a large effort to examine over 3,000 individuals who were exposed to radioactive iodine-131, during the 1940's and 1950's, to determine whether there was a relationship between exposure to iodine-131 and thyroid disease and thyroid cancer. That study will be completed this December. In addition, we have supported, and continue to support, the development of cancer registries around our sites to look at whether there is a greater than expected incidence of cancers. We also support birth defect registries—again to see whether or not there are any problems with congenital malformations and birth defects related to our production sites.

So supporting health studies, per se—not only community studies but also worker studies—is a major role of our office. We are looking at whether there are excesses of a particular kind of cancer—whether it is lung cancer, or leukemia, or breast cancer—and looking at special populations in our workforce; for example, female workers or children of radiation workers. We have, at present, approximately 70 studies underway at DOE sites—both large sites and small ones—looking specifically at questions of whether there are health consequences related to the legacy of our work.

We also have an important role in ensuring that the occupational medicine programs that are provided by our contractors at each of our sites are up to date, provide the highest quality of service, and provide the appropriate surveillance and coverage for our workforce. So, again, I think it's critical for us to ensure that through the appropriate departmental documents—whether it's orders or guidance or policy statements—we are covering all the critical health needs of our workforce. This includes a whole range of things, from developing an occupational medicine order to developing policies related to violence in the workplace or smoking or psychological testing for security workers. So I think those are our two critical areas: ensuring that the appropriate studies are being done of communities and workers and ensuring that our occupational health and surveillance programs are of the highest quality they can be.

QUES: Looking back over your tenure as Deputy Assistant Secretary, what do you think are your most significant achievements?

ANS: That's a good question. I have been here for 4 years now. Before coming to DOE, I was at NIOSH, which is part of CDC. I think that what I really hoped to bring to DOE during my tenure here was the ability to help this office and the Office of Environment, Safety and Health [EH] focus a little bit better on its public health mission. I mean, EH, in general, is the one office within DOE where we work to ensure that as a Department, and as a "corporation," we take care of the safety and health of our workforce and focus on our responsibilities to the communities around our sites.

In terms of the most significant achievements in our health studies program, there are several. One is that we have developed much greater collaboration with our partners at CDC. We have begun the process of developing and reexamining the health studies agenda and looking at where we should be focusing our efforts. We have engaged with both CDC and many of the communities surrounding our sites in trying to determine what their interests are and what they believe are their most important priorities for health studies. In the international arena, we have embarked on a very ambitious program with the Russian Federation to develop a series of both community and worker studies around the Mayak weapons production facility in Russia. We developed a new agreement with the Japanese government that stabilized our support for the Japanese A-bomb survivor studies—the Radiation Effects Research Foundation. Also, during my tenure here we have developed a program that is addressing some of the concerns of our former DOE workforce. We now have 10 separate cooperative agreements at 9 different sites looking at the potential health problems of some of our most vulnerable former workers. This new initiative was just started 2 years ago, and is a very important one.

So, to me, our contributions in the areas of both international studies—making sure that our Japan

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studies and Russian studies are on firm footing—and our domestic program—making sure that it is heading in the right direction and is responsive to our customers and stakeholders and that we are working diligently to address legacy issues—have been some of my most significant achievements. Looking ahead, I'd like to see us nail down this health studies agenda with CDC if we can. We've spent a year talking to stakeholders in the community, and they've been very forthright in their concerns. For example, they would like us to spend less time focusing on legacy issues and put more effort into focusing on current problems that face our workers; that's also true of many of the community members around our sites. They'd like us to do a better job of communicating what it is we know to date about the health impacts of our operations and the results of many of the studies that have been done. They'd like to see us begin to shift some of the emphasis away from just doing epidemiologic studies. So, I think with this kind of input, and with the help of our partners at CDC, that developing this agenda will be a very exciting accomplishment.

Similarly, although not under my tenure, one of the greatest contributions of our office has been in essentially uncovering a problem that prior to this decade had somewhat receded out of view—the problem of beryllium disease. Our office supported the screening of over 8,000 current and former workers at Rocky Flats and Y-12. As a result of this screening, we determined that 105 current and former workers suffered from chronic beryllium disease and over 200 are sensitized to beryllium. Based on these findings, the Secretary made a commitment about a year and a half ago to pursue a new rule for a beryllium protection program at DOE. We have worked closely with Joe Fitzgerald's [Deputy Assistant Secretary for Worker Health and Safety] shop in developing the rule, and have committed the Department to ensuring that all former workers who worked with beryllium have an opportunity to be screened to see if they are sensitized to beryllium or have chronic beryllium disease. In this coming fiscal year, we will be developing a program throughout the complex to offer this type of screening. I think that in this next year and the subsequent 3 or 4 years, if we can ensure that every worker in the Department who ever had any exposure to beryllium has an opportunity to come forth and be tested, it would be an extraordinary accomplishment. Also, on the beryllium front, Deputy Secretary Moler, this past spring, issued a policy statement simplifying workers' compensation claims by workers with beryllium disease. This is a great feat for us.

QUES: Your office is involved with the Department of Health and Human Services (HHS) in developing an agenda for the health studies program conducted by CDC and the Agency for Toxic Substance and Disease Registry (ATSDR). Where are you in that process, and what have you learned to date?

ANS: Last summer, Assistant Secretary Tara O'Toole wrote the Director of NIOSH and the Director for the Center for Environmental Health and pointed out that the Department and CDC generally lacked a credible, coherent agenda of health studies. She said it was time that HHS sat down with DOE toward that end. In this past year, we have been able to work not only with CDC, but with its sister agency, ATSDR, in developing a complete inventory of all of the studies that are being conducted, along with a description of those studies by site. This is a document that is available to anyone who is interested. It is the first time that we have been able to put in one place all of the studies that are being accomplished throughout the Department. So, that was one of our first accomplishments this year.

We also held three workshops to solicit public input on this agenda—one at Rocky Flats, one at Los Alamos, and one at Oak Ridge. In addition, we met with many of the health effects subcommittees that exist at our sites and polled them on where they think our program should be going and what their priorities are in terms of health studies. This year, having now polled the communities and having created this inventory, my hope is that we can go site by site and determine what studies should be done, what studies are of value, and what studies have the highest priority. This is, I think, not only of interest to our stakeholders in the field but also of intense interest to members of Congress as well. They look very carefully at our program and are interested in knowing that we have a coherent sense of where we are going and what our priorities are in terms of what we are studying, who we are studying, and why we are studying them.

QUES: Openness, declassifying records, and providing access to these data have been important issues for the Department. What role has your office played in addressing these issues?

ANS: Openness, declassification, and access are absolutely critical—they are the linchpins of any successful health studies program. In order to receive any kind of credible hearing, whether it is among our workers or community members or among our peers in the scientific community, the work has to be done in a fashion that assures that all the relevant records are made available and that all the data necessary to conduct analyses are available for analysis and examination.

In the area of health studies, we have worked very closely with our colleagues at various classification offices throughout the Department (at Headquarters and in the field) to ensure that, when our researchers need to see records that are classified, they have the appropriate clearance necessary to get at those records. Better still, if we can get those records declassified, we will. Second, we have endeavored to ensure that all of the data on any of our studies are made part of a public use data set, the Comprehensive Epidemiologic Data Resource (CEDR). Researchers and any individual can access the data on the web once they receive an access code from us. Similarly, we now have an office that is going back and ensuring that all the epidemiological

records that were frozen during Admiral Watkins' tenure as Secretary are carefully reexamined to determine which are essential to be saved for use in health studies and which can be discarded.

Finally, we have a handbook that has been produced by our office for any individual or group of individuals who want to conduct research at the Department. This handbook describes how to get access to our records and who is responsible for what during the conduct of health research in the Department. I encourage anyone who is interested to look at that handbook, particularly if they are working with CDC or one of the agencies involved in research at our sites.

QUES: International health represents an important commitment on the part of EH. Why are these studies important to the Department?

ANS: We have four major programs that we support in the Office of International Health Programs. First, we support studies of the atomic bomb survivors in Hiroshima and Nagasaki, through the Radiation Effects Research Foundation. Second, we have a joint arrangement with a number of U.S. agencies as part of the Joint Coordinating Committee on Radiation Effects Research, which looks at the health consequences of nuclear weapons production in Russia. Third, we support a program through the National Cancer Institute, looking at the effects of the Chernobyl accident on both workers and children in the Ukraine and Belarus. And, finally, we have a longstanding program in the Marshall Islands that primarily focuses on providing medical monitoring to individuals who were exposed to high levels of fallout during one particular test on March 1, 1954, the Castle Bravo test; and an environmental program focused on documenting the level of environmental contamination in the Marshall Islands to ensure that people who have resettled on the various atolls can continue to do so safely and that those who wish to resettle in the future can indeed do so on some of these atolls.

These programs are important for a variety of reasons. First, they provide critical information for the Department and the American people on ionizing radiation health effects. Second, they add yet more information about what we know about the health effects of environmental contamination. The Japanese studies have now been going on for 50 plus years. They are the largest, longstanding studies of any population related to radiation effects and have served as the foundation for what we know about the health effects of ionizing radiation—not only among survivors, but also the children who were in utero at the time and born subsequent to the atomic bomb to parents who survived the blast. The studies have also allowed us to set appropriate standards for radiation protection based on that health information from the A-bomb survivors. Third, I think we have a very important moral commitment to the people of the Marshall Islands. We used their lands for nuclear weapons testing in the Pacific, and I think we have a continued responsibility to ensure that those who were exposed to fallout are appropriately monitored and that those lands that were contaminated as a result of our testing are remediated and monitored in a way to ensure that they can be safely and appropriately be resettled or reused.

Finally, our Russian program offers a unique opportunity to study yet another population of community members and workers similar in many ways to our own; but in many circumstances, not at all similar, because their levels of exposure were much greater and of much longer duration than our workers and communities around our sites. Again, this gives us another important window on radiation health effects information that we can use to appropriately set standards at our sites.

QUES: How would you evaluate the effectiveness of DOE's current medical surveillance program? How would you like to see it improved?

ANS: Our medical surveillance programs are essentially run by our site occupational medicine programs. Inasmuch as we cleave to the requirements of OSHA and inasmuch as we have our own orders and guidelines, I would say that, by and large, these programs have been very effective. But I have to emphasize a major caveat: the way we conduct our work in DOE has changed tremendously. It has even changed a lot in the 4 years that I've been here. When we generally had one large occupational medicine program at a site that was responsible for all the workers at a site, I would say that we had good coverage and pretty effective programs. But as we began to divide up the work and the way the work is conducted into smaller subunits and give the subunits responsibility—to the point where the site occupational medicine program no longer has any responsibility for a large portion of the workforce that comes on site in a given day—I think we are running into difficulty in ensuring that our medical surveillance is uniform, that it is done appropriately, that the appropriate personnel are being used to conduct this surveillance, that the information is adequately communicated to the workers, and that this information is appropriately acted upon.

I am concerned about how well medical surveillance programs are going to survive in the context of management and integration contractors and whether—even though the integrator is effective in accomplishing the work—that integration will also apply to ensuring that the health and safety of the workforce is appropriately monitored and addressed. I am a strong supporter of Integrated Safety Management [ISM] and all the efforts that have been undertaken by EH over the past couple of years in this area. But, I am very concerned about how ISM will actually be applied in the context of an environment where you have 50 or 100 subcontractors on a particular site, each one of which is responsible for its own medical surveillance program. That presents a tremendous challenge. You asked me how I'd like to see it improved. I am not sure that at this point of time, I have a good answer, other than it is critical that somewhere—either at the contractor corporate level or the DOE level—someone ensures that we provide uniformly effective, high-quality surveillance programs to all of our workers, irrespective of whether we have a single M&O contractor or multiple contractors at a site.

Until then, I am worried about how the reconfiguration of our work is going to affect our ability to deliver high-quality uniform medical surveillance programs, particularly to those workers doing the most high hazard jobs. One of the trends we have observed is that it is among subcontractors with workers doing the most hazardous kinds of cleanup work where there is the least availability of such programs. This was an issue addressed in Tara O'Toole's study *Hazards Ahead* and it is as true now (or more so) than when she wrote it 6 or 7 years ago.

QUES: What are the challenges that you see in the Department's future and what should we be doing now to prepare to meet them?

ANS: I think in large measure I've covered this. I think that one of the greatest challenges in protecting worker and public health is DOE's changing mission. For example, we are now doing more decontamination and decomissioning work—work that

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has a whole host of poorly documented, poorly controlled hazards in environments and work settings that change from day to day. And how we handle these highly hazardous and variable conditions is, I think, going to be a major challenge for the Department. As I said before, there have been changes in the way work is contracted and subcontracted. Again, ensuring monitoring and surveillance is provided, particularly for those workers doing the most dangerous jobs, is a great challenge for us. I think that part of our role in this office is to be the eyes and ears of the Department. Good surveillance data, the kind of data that we collect from our monitoring activities and use in our studies—not only in our office, but in other offices of the Department—help us identify health problems as soon as we can and in a way that those who make policy and those who run our facilities can use the data to address these problems. That is essentially the public health model of surveillance: the collection, analysis, and dissemination of health information to those who need to have that information in order to make appropriate public health decisions.

I think we are certainly doing what we can to improve the system that we have. For example, we have a program at 10 of our sites where we keep track of all the worker illness and injury data. Inasmuch as we can expand and improve our surveillance systems to ensure that we can provide data in a timely fashion to those who need to use it, we will have made major steps to help improve safety. Part of what the Office of Health Studies provides for is appropriate surveillance, but we also provide as much documentation as we can about the health consequences of our operations. Again, in that vein, we try to learn as much as we can from these efforts to ensure that our operations are conducted in a safer manner in the future.

QUES: Do you have any other comments you'd like to share with our readers?

ANS: DOE is a fascinating place to work. It is clearly a large and diverse organization with individuals of extraordinary talents and capabilities. I've found it to be a very exciting and intriguing time to be here at DOE. I think that despite the difficulties that have been created by the changing focus in the mission, the Department has extraordinary strengths to fall back on in terms of its people-power and brain-power. So even the problems I talked about in my interview all have potential solutions because this is a Department that historically has been known to solve difficult and intractable problems.

Yucca Mountain Project Mine Rescue Team "Places" in Mine Safety and Health Administration Competition

The Department of Energy's (DOE) Yucca Mountain Project (YMP) Mine Rescue Team placed fourth in the Mine Safety and Health Administration (MSHA)-sponsored National Metal and Non-Metal Mine Rescue Competition, held at the Las Vegas Convention Center, in Las Vegas, Nevada, July 8-9, 1998.

The competition featured fully equipped teams conducting "field problems" wearing closed-circuit, self-contained breathing apparatuses (CCSCBA) while practicing exploration, gas testing, ventilation assessment, fire fighting, first-aid, and survivor recovery techniques during simulated potential underground mine accidents. Teams were also given written and practical "gas testing" examinations. A separate competition was held for the breathing apparatus mechanic, or "benchman."

This contest fielded the best Mine Rescue Teams (41 in all) in the United States. Competing in these events helps these teams gain and retain more knowledge and become better prepared for emergency situations. J. Davitt McAteer, Assistant Secretary for Mine Safety and Health, U.S. Department of Labor, awarded trophies to the top six teams. He noted, "teams which receive management support and participate in these competitions have increased skills and ability to respond to an underground emergency, thereby increasing the likelihood of saving lives."

The YMP Mine Rescue Team is an integrated team of both M&O contractor and scientific characterization personnel. DOE and the Yucca Mountain Project recognize these individuals for a job well done.

(From left to right) Yucca Mountain Project Mine Rescue Team Members Paul Nowka, Underground Rescue Team Trainer; and Rob Lung, Dennis Anderson, Greg Mongano, Sam Martinez, Mike Taylor, and James Foley.

Fernald Emphasizes Recycling and Reuse of Equipment During Sewage Treatment Plant Relocation

DOE and Fluor Daniel Fernald were recently recognized by stakeholders for replacing the sewage treatment plant at the Fernald site, which was built in 1951. Approximately 90 percent of the equipment for the sewage treatment plant came from onsite facilities no longer in use, resulting in a tremendous cost savings.

The old sewage treatment plant frequently required significant maintenance service and was in the path of construction of the onsite disposal facility. DOE and Fluor Daniel Fernald determined that a new sewage treatment plant was needed to continue the necessary site sewage treatment service until closure of the site. Project engineers determined that the best location for the new sewage treatment plant was next to the Advanced Wastewater Treatment facility because it would allow centralization of operations.

Project engineers and designers sought to use existing equipment whenever possible to reduce costs. "We needed a sewage treatment plant but didn't want to spend a lot of money on a facility that would be torn down in a few years," said Dennis Carr, Fluor Daniel Fernald, vice president of the site's Soil and Water Project. "In an effort to make use of all available resources, the Biodentrification Effluent Treatment System (BETS) was the most obvious place to begin."

The BETS was installed in 1989 and shut down in late 1994, then relocated and reconfigured as a new site-extended aeration sewage treatment system. The existing BETS equipment included two, 100,000-gallon aeration tanks; two, 26,000-gallon clarifier tanks; two, 8,000-gallon sludge thickener tanks; a 3,000-gallon effluent pumping tank; two air-powered diaphragm sludge pumps; an automatic composite effluent sampler, and a system control panel.

Existing ultraviolet disinfection units and control panels from the old sewage treatment plant were relocated to the new facility. Existing centrifugal blowers, previously purchased for a discontinued production plant project were installed to replace the original blowers and provide system aeration and air lift pumping. Also, an existing guard building was relocated for use as an operator work station. Other miscellaneous existing equipment, including a magnetic flowmeter, valves, power panels, and switches, was also incorporated into the new system. "All in all, the majority of material and equipment that went into the new sewage treatment plant was either used or recycled," said Carr.

Fernald's BETS was installed in 1989 and shut down in late 1994. It was recently relocated and reconfigured as a new site-extended aeration sewage treatment system.

Wise Services and Orbit Movers & Erectors, both project subcontractors, assisted Fluor Daniel Fernald with site preparation and development, trenching, and underground piping and relocation. Willie Frazier, construction contracts manager, noted that "Frequent, two-way communication between the project team and subcontractors was the key to completing this fast-paced project."

Worker Safety and Health Standards Response Line

Do you have a question regarding the applicability or interpretation of a worker safety and health standard or directive? Call the DOE Worker Safety and Health Standards Response Line at 1-800-292-8061, fax your question to 301-903-9976, or electronically submit your question via the Response Line Web Site at *http://tis-nt.eh.doe.gov/rl.*

EPA Issues Guidance on Section 7003 of RCRA

The Environmental Protection Agency (EPA), Office of Enforcement and Compliance Assurance (OECA), issued a guidance document in October 1997 entitled, *Guidance on the Use of Section 7003 of RCRA.* As clarified in the Hazardous and Solid Waste Amendments (HSWA) of 1984, Section 7003 is intended to allow the EPA to address situations where the handling, storage, treatment, transportation, or disposal of any solid or hazardous waste may represent a potential or actual imminent or substantial endangerment to human health and/or the environment. The guidance provides EPA regional staff with information regarding the use of Section 7003 as a "tool" to compel actions to address imminent and substantial endangerment to human health and/or the environment. In these situations, EPA can initiate judicial action or issue an administrative order to any person who has contributed or is contributing to such handling, storage, treatment, transportation, or disposal of solid or hazardous wastes to require the person to refrain from those activities or to take any necessary action to resolve the situation.

Section 7003 of RCRA provides EPA with broad and effective enforcement tools that can be used to abate conditions that may present an imminent and substantial endangerment to health or the environment in a variety of situations. For example, Section 7003 **can be used to address potential endangerments that may be presented by solid or hazardous waste even if the persons or activities causing the endangerment are not subject to any other provision of RCRA or environmental law.** Section 7003 can also be used to address potential endangerment at facilities in compliance with regulations or permits issued pursuant to RCRA. Thus, a permit holder may not assert a "permit-as-a-shield" defense under Section 7003.

Some examples of situations where Section 7003 may be applied include: (1) hazardous wastes spilled at facilities where such waste is generated but which is not required to be permitted under Subtitle C of RCRA, and which do not have, never had, nor were required to have, interim status under Section 3005(e) of RCRA; (2) solid or hazardous waste spilled during transport; (3) wastes containing radioactive materials (i.e., radionuclides that are not exempt from the statutory definition of "solid waste"); (4) medical wastes; and (5) biological and chemical munitions wastes.

Among its benefits, Section 7003 provides EPA with a strong and effective means of furthering risk-based enforcement and implementing its strategy for addressing the worst (i.e., highest priority) RCRA sites first. Furthermore, at any given site, EPA is attempting to use whatever legal authority is best suited to achieving environmental success. Section 7003 provides an invaluable means for achieving environmental success at many of these high priority sites.

Liability under Section 7003 is strict. That is, anyone who contributed to, or is contributing to the creation, existence, or maintenance of an imminent and substantial endangerment is subject to the equitable authority of the statute without regard to fault or negligence.

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Section 7003 may compel the implementation of interim measures (e.g., containment, stabilization, removal of contaminant sources, etc.) depending upon the urgency of the endangerment resulting from the release of contaminants. Additionally, Section 7003 may require long-term cleanup, including the design, construction, and implementation of any measure necessary to abate the conditions causing an endangerment. Section 7003 also gives EPA the authority to restrain handling, storage, treatment, transportation, and disposal that may present an endangerment. The EPA may also seek or impose restraints on actions that are related to conditions that may present an imminent and substantial endangerment such as: (1) shutting down a groundwater recovery system that is creating a threat to the environment; (2) shutting down an incinerator that has inadequate controls; (3) terminating all facility operations until all workers have been adequately trained in hazardous waste management; (4) installing new pollution control equipment on a treatment unit; (5) applying for and obtaining appropriate permits; and (6) constructing secondary containment.

Guidance Gives Basic Requirements for Initiating Action

The three basic requirements for initiating action under Section 7003 are the following: (1) conditions may present an imminent and substantial endangerment to health or the environment; (2) the potential endangerment stems from the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste; and (3) the facility has contributed or is contributing to such handling, storage, treatment, transportation, or disposal.

Because conditions vary dramatically from site to site, there is no comprehensive list of factors that EPA may consider when determining whether conditions may present an imminent and substantial endangerment. In some cases, the potential endangerment may be immediately apparent; in others, the risks may be less readily identified. Some of the factors highlighted in the guidance that the EPA regions may consider in order to determine potential endangerment are as follows:

(1) levels of contaminants in various media
(2) existence of a connection between the solid or hazardous waste and air, soil, groundwater, or surface water
(3) pathways of exposure from the solid or hazardous waste to the receptor population
(4) sensitivity of the receptor population
(5) bioaccumulation in living organisms
(6) visual signs of stress on vegetation
(7) evidence of wildlife mortalities, injuries, or disease
(8) history of releases at the facility or site
(9) staining of the ground
(10) missing (i.e., unaccounted for) solid or hazardous waste.

Guidance Covers Investigation and Assessment

The legislative history of Section 7003 clearly states that Congress intended Section 7003 to give EPA the authority to obtain relevant information about potential endangerments. Examples of investigation and assessment actions that have been ordered include: (1) sampling, testing, and analysis of media (e.g., air, water, or soil) to determine the nature and extent of contamination; (2) assessment of the integrity of tanks and impoundments onsite; (3) evaluation of the nature and extent of any migration of hazardous wastes from the site; (4) a survey of affected receptors (e.g., plants, wildlife); (5)studies to assess exposure and studies of the effects on health and the environment; (6) performance of a risk assessment; and (7) performance of a diagnostic study of the threat that hazardous wastes leaching from a landfill posed to a public water supply.

Material for this article has been abstracted from *Guidance on the Use of Section 7003 of RCRA,* October 1997, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency. The guidance is available on the Internet at EPA's OECA Web site, *http://es.epa.gov/oeca/.* For more information, contact Jerry Coalgate, Office of Environmental Policy and Assistance, RCRA/CERCLA, at (202) 586-6075; fax, (202) 586-3915; or e-mail *(jerry.coalgate@eh.doe.gov).*

Expansion of Fernald's Water Treatment Facility Expected to Greatly Reduce Aquifer Cleanup Time

The Department's Office of Science and Technology, Subsurface Contaminants Focus Area, is sponsoring the evaluation of reinjection technology at Fernald. The innovative strategy is being tested in an attempt to cut 15 years off the original 27-year groundwater cleanup schedule and save millions of dollars in the process. This aggressive groundwater restoration effort entails large-scale reinjection of treated groundwater into the aquifer and will greatly exceed previous groundwater cleanup efforts undertaken anywhere in the United States. Fernald began expanding the Advanced Wastewater Treatment (AWWT) facility in 1997 as part of the effort to provide quality water for reinjection, and the expansion project was fully operational on April 30, 1998.

The Fernald Environmental Management Project, a 1,050-acre former uranium production facility, sits on top of the Great Miami Aquifer, a sole source aquifer and a major source of drinking water in the greater Cincinnati area. The portion of the aquifer underlying the Fernald site was contaminated with uranium as a result of years of production at the Fernald site. DOE is committed to fully restoring the contaminated portion of the aquifer to 20 parts-per-billion of total uranium, a level proposed by the U.S. Environmental Protection Agency (EPA). The aquifer cleanup plan was agreed upon by DOE, regulators, and stakeholders and is included in the *Operable Unit 5 Record of Decision.*

When the AWWT went on-line in 1995, its primary purpose was to address contaminated storm water runoff and remediation wastewater processing. Its design treatment capacity was 1,100 gallons-per-minute (gpm). The expansion project is dedicated to the treatment of groundwater with an additional design treatment capacity of 1,800 gpm, more than doubling overall wastewater treatment capability. According to David Brettschneider, FluorDaniel Fernald Aquifer Restoration/Wastewater Project Manager, "Timely completion of this project marks an important milestone. It's the beginning of our accelerated cleanup effort for the aquifer, a valuable natural resource."

The expansion project design is based on learning from successful operation of the existing wastewater treatment processes. The primary unit operations are aeration, multimedia filtration, and strongly basic anion exchange. The aeration step is intended to force any dissolved iron out of solution, allowing it to be filtered, before it can foul downstream equipment, including the reinjection wells. Multimedia filtration is used to remove the precipitated iron and any other suspended material. The strongly basic anion exchange step is used to remove the dissolved uranium from the groundwater.

To minimize capital and operating costs, the project was installed within the boundaries of the existing AWWT. It will be operated by the existing staff, using the existing control system. The expansion project is monitored and operated primarily from the treatment building's control room—along with the existing AWWT—using a distributed control system (DCS). The DCS receives input from process meters, including the tank level and process flowmeters, and from devices that indicate equipment status, such as valve position limit switches and motor-run relays.

The DCS outputs control signals to regulate the process and operator interface with the DCS using desktop computer equipment (monitor, keyboard, mouse, etc.). The operator interface includes graphics that depict portions of the treatment system in piping and instrumentation drawing format. The graphic screens show real-time process measurements and equipment status. The operator can start or stop motors and operate valves from the DCS system. In addition, the DCS system includes process trend charts, process alert/alarm and interlock management, and an historical database of all operator inputs and process alerts/alarms.

The new treatment system equipment at the AWWT has a rated capacity of about 800 million gallons-per-year, more than doubling the overall wastewater treatment capability. The total capacity of the plant now exceeds 1.2 billion gallons per year.

Construction of the project was a joint effort between Fluor Daniel Fernald; Fred B. DeBra Company, the project's construction subcontractor; and Bailey Control Systems, supplier of the DCS system and of the project's control configuration. "Everyone worked together well to get the job done. They really focused on providing a good, operator friendly system," said Steve Bozich, technical engineer for the project.

Multimedia Pollution Prevention Permitting Project Focuses on Pollution Prevention

An August 1997 report for the Multimedia Pollution Prevention Permitting (M2P2) Project presents the findings of a study conducted by the U.S. Environmental Protection Agency (EPA). The study evaluates the results of a pilot project on multimedia environmental permitting, with a focus on pollution prevention. Environmental permitting plays a key role in ongoing efforts to control industrial pollution. Current EPA permitting programs have been in place for many years to comply with the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act.

EPA has been working with several states to examine the feasibility of reducing and simplifying regulatory reporting by developing multimedia pollution prevention based permits for industrial facilities. A multimedia permit, broadly defined, is a single enforceable agreement that controls releases to several environmental media with permitted releases to each media determined in a coordinated manner. In contrast, under the current system, numerous individual permits are currently issued to a facility, setting limits on the release of specific pollutants to a single environmental medium such as air, water, or soil.

The current permitting system has the advantage of being firmly established and familiar to a broad range of stakeholders. However, it is often characterized as an obstacle to effective program integration, a barrier to pollution prevention, and a source of duplication and inefficiency. Advocates of the new multimedia permitting say the approach will lead to more effective environmental management, and, at the same time, reduce delay and duplication, advance pollution prevention, and, over time, reduce costs. The M2P2 Project ties together a number of efforts initiated by states to develop multimedia permits and related environmental management tools. Lessons learned from these efforts should eventually benefit DOE facilities, too.

State Multimedia Permitting Efforts

The three primary states participating in the M2P2 project are New Jersey, Arizona, and Massachusetts. Specific approaches taken by the states range from full-scale consolidation of permits across media to a streamlined multimedia self-certification form designed for small companies.

New Jersey has a pilot program under way to test the feasibility of developing multimedia permits for a wide range of industrial facilities. The State Pollution Prevention Act of 1991 (PPA) requires the New Jersey Department of Environmental Protection (NJ DEP) to select 15 "priority industrial facilities" to take part in the pilot program. Each participating facility is issued a single facility-wide permit covering all of its regulated emissions and discharge points. As required by the PPA, the permit application includes the facility's multimedia pollution prevention plan. The program's four main goals are to (1) promote pollution prevention, (2) increase operational flexibility, (3) streamline the permitting process, and (4) identify regulatory obstacles to pollution prevention. Emphasis is placed on encouraging reduction of nonproduct output, defined as all hazardous material that is generated prior to storage, recycling, treatment, control, or disposal and that is not intended to be used as intermediate or final product. NJ DEP issued its first multimedia permit in December 1994 to a pharmaceutical manufacturing facility in Kenilworth, New Jersey, owned by the Schering-Plough Corporation. By early 1998, 10 facility-wide permits had been issued with another 6 in various stages of development. For more information on the New Jersey program, contact Michael DiGiore, NJ DEP, (609) 777-0518.

The Arizona Department of Environmental Quality and EPA have a final project agreement with the Intel Corporation that provides for the development of a 5-year environmental management master plan for the company's new facility in Chandler, Arizona. Intel's Fab 12 facility produces semiconductors. This project is being implemented as part of EPA's Project XL initiative, a national pilot program that tests innovative ways of achieving better and more cost-effective public health and environmental protection. Key features of the Intel agreement include site emission limits, voluntary goals, an integrated emergency response plan, incorporation of the company's Design for the Environment Program, and other environmental benefit activities. Intel is the first company to agree to make all its environmental data publicly available on the Internet as part of a standard reporting mechanism. Intel's 1997 Project XL Annual Report is available on the Internet at *http://www.intel.com/intel/other/ehs/projectxl/.*

Massachusetts has been experimenting with an innovative multimedia approach that is designed to help small companies achieve compliance with environmental requirements. The Printers Partnership Program, launched in 1994 by the State Department of Environmental Protection, allows small-to-medium size printing companies to file a multimedia self-certification statement to demonstrate compliance. This single document takes the place of multiple single-medium permits and approvals. The statement also provides information on pollution prevention opportunities. Massachusetts has completed development of its self-certification program and has proceeded with full-scale implementation. *The Massachusetts Printers Partnership Workbook, A Self-Certification Guide for Commercial Printers* is available on the Internet at *http://www.state.ma.us/dep/bwp/dhm/dhmpubs.htm.*

A number of other states, including Delaware, Florida, New York, and Washington, have also begun to explore multimedia permitting options.

Project Findings

Findings are still preliminary, as the state pilot projects are at varying stages of completion. Early indications show that multimedia permitting efforts do have a positive effect on environmental results. The two benefits cited most frequently by the states are streamlining and operational flexibility.

However, there are several issues of concern to most M2P2 states: (1) the need to ensure consistency with single-medium statutory and regulatory requirements (especially Clean Air Act Title V requirements); (2) lack of agreement as to whether multimedia permitting really achieves superior environmental results; (3) inconsistencies among air, water, and hazardous waste permitting requirements; and (4) the high resource commitments involved in the transition to multimedia permitting.

It is clear from this study that a number of states have made progress in testing multimedia permitting approaches. Several recommendations are listed in the report that focus on steps EPA can take to support continued research, evaluation, and problem solving. These measures would lay the groundwork for broader implementation of M2P2 approaches, including use at Federal facilities.

Material for this article was derived from the *Multimedia Pollution Prevention Permitting Project Report,* EPA 902-R-97-003, August 1997. For more information, contact Jane Powers, Office of Environmental Policy and Assistance, RCRA/CERCLA, at (202) 586-7301; fax, (202) 586-3915; or email *(jane.powers@eh.doe.gov).*

Joint NRC/EPA Mixed Wastes Testing Guidance

The Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) jointly issued *Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste,* 62 FR 62079, on November 20, 1997. The guidance includes guidelines and suggestions for sampling and testing, as well as applying process knowledge, in characterizing mixed wastes. This guidance will assist DOE and contractor personnel in identifying Resource Conservation and Recovery Act (RCRA) characterization schemes that will allow for adequate characterization of mixed wastes while reducing occupational exposure to radiation.

Determining if Solid Wastes are RCRA Hazardous Wastes

RCRA requires generators of waste containing radioactive and solid waste components to determine if the solid waste is actually a hazardous waste. Solid wastes are hazardous wastes if they are "listed" wastes or if they exhibit a "characteristic" of hazardous waste.

The RCRA regulations address "listed" hazardous wastes from (a) nonspecific waste sources [40 CFR 261.31], (b) specific sources [40 CFR 261.32], and (c) discarded, off-specification chemical compounds [40 CFR 261.33]. Generators compare their waste stream or waste to these lists to determine if their waste is a hazardous waste or if it is derived from or mixed with one of these listed wastes.

Characteristic" hazardous wastes exhibit one or more of four characteristics—-ignitability [40 CFR 261.21], corrosivity [40 CFR 261.22], reactivity [40 CFR 261.23], or toxicity [40 CFR 261.24]. Since these characteristics are based on chemical or physical properties, physical or chemical testing is generally presumed to be required. The RCRA regulations, however, do not necessarily require physical or chemical testing of the waste; rather, in some cases, they simply require determining if a solid waste is a hazardous waste as a consequence of being "listed" or exhibiting a "characteristic." This determination may be based on existing characterization records, detailed knowledge of the waste-generating processes, characteristics of similar waste streams, and so forth.

Using Knowledge of Waste in Making Hazardous Waste Determinations

A recurring theme of the guidance document is reliance on waste knowledge wherever possible to avoid unnecessary physical or chemical testing. The term "waste knowledge" is interpreted broadly in the guidance to encompass:

- process knowledge (i.e., detailed information either on processes that generate the wastes subject to RCRA, or on wastes generated from processes similar to that which generated the waste in question).

- records of analyses completed by a generator or Treatment, Storage, and Disposal Facility (TSDF) before the effective date the waste became subject to RCRA regulations.

- a combination of process knowledge and records of analyses as supplemented with chemical analysis.

Waste knowledge can substitute for testing to determine if the solid waste components of mixed wastes are RCRA hazardous wastes. Waste knowledge can be used to determine if (1) a waste is characteristically hazardous, (2) a waste matches a RCRA listing, (3) a hazardous waste is restricted from land disposal, and (4) a restricted waste can be land disposed without further treatment.

Waste knowledge can be an acceptable and preferred methodology for characterizing waste streams that could expose personnel to increased radiation exposure. Generators of mixed waste should consult with the appropriate EPA regional office or authorized state agency to determine if their knowledge of the waste is sufficient to characterize their wastes.

When Testing is Required Under RCRA

Chemical and/or physical testing may be required to determine if a solid waste is a hazardous waste if waste knowledge is not adequate. The guidance document highlights three strategies for reducing occupational radiation exposure when testing is required. It also discusses the flexibility inherent in the hazardous waste regulations if testing must be done.

Strategies for reducing occupational radiation exposure are the following.

- Use of surrogate materials. Surrogate materials are chemically identical materials with either significantly less or no radioactivity. Surrogates can only be used if they faithfully represent the hazardous constituents of the waste under analysis.

- Use of sampling sizes less than 100 grams. Although the Toxicity Characteristic Leaching Procedure (TCLP) recommends a 100-gram sampling size, smaller sampling sizes for radioactive wastes can be used if EPA agrees that the test will still be sufficiently sensitive to measure the constituents of interest at the regulatory levels specified in the TCLP. The reduced sample size must, of course, also be representative of the waste stream being tested.

- Use of total constituent analysis. The TCLP (Section 12 of Method 1311) allows for a TCLP exemption if a total analysis of the waste demonstrates that individual analytes either are not present in the wastes or are present in such low concentrations that regulatory levels could not possibly be exceeded. The use of total constituent analysis eliminates the health concerns associated with the grinding or milling of waste samples normally required under the TCLP. Total constituent analysis will also likely minimize the generation of secondary mixed or radioactive wastes.

The flexibility within the RCRA regulations allows generators, TSDFs, and RCRA permit writers to develop mixed waste sampling and analysis plans that take into account radiation hazards. Exposure to radiation hazards during mixed waste testing may be minimized by specifying a low frequency of testing in a facility's waste analysis plans.

Flexibility is also available through changing or replacing EPA's required test methods or utilizing the Performance Based Measurement System (PBMS) advocated by EPA. Fourteen sections in the RCRA regulations require use of specific test methods or appropriate methods outlined in *Test Methods for Evaluating Solid Waste* (SW-846). However, while specific test methods may be required in most cases, RCRA regulations also provide for the use of equivalent testing or analytical methods to replace the required EPA method in those instances where alternative analyses are warranted based on consideration of safety, as well as other considerations. Additional flexibility is available through the PBMS approach EPA is applying to all RCRA program functions.

The PMBS is defined as a "system for specifying monitoring requirements that imposes legal accountability for the achievement

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Joint NRC/EPA Mixed Wastes Testing Guidance continued from page 11

of specific data or measurement quality objectives, without prescribing the particular procedures, techniques, or instrumentation that is to be used for achieving such objectives." Under a PMBS approach, testing of radioactive wastes to determine if they are also hazardous wastes could be tailored to address the general hazards posed by radioactive wastes as well as those raised by the particular waste stream under assessment.

Testing Under NRC

There are no specific NRC testing requirements for determining if a waste is radioactive. However, under both NRC and Department of Transportation regulations, the radioactive content of wastes must be characterized before they are shipped. The NRC requires shipping manifests to include, to the greatest extent practicable, the radionuclide identity and quantity, and the total radioactivity. Generators of radioactive waste must also determine the disposal Class (i.e., A, B, C, or Greater than C) of their wastes to ensure suitable disposal.

The NRC and EPA were unable to identify any examples of conflicts between the RCRA hazardous waste determination requirements and the Atomic Energy Act requirements for radioactive wastes. Both agencies recognize the potential for inconsistencies between the two laws but believe that perceived issues could be reduced if RCRA were better understood, waste knowledge were better utilized, surrogate materials were used whenever possible, and controlled atmosphere apparatuses were more frequently used for mixed waste testing.

Hazardous Waste Determinations to Ensure Proper Waste Management

Owners and operators of TSDFs must obtain a chemical and physical analysis of a representative sample of the waste in order to ensure appropriate waste management. The analysis may be based on generator-supplied data or information from existing, published, or documented sources on the waste. TSDF owners and operators will generally not need to do an independent analysis unless previous analyses are inaccurate or need updating.

Waste analysis and periodicity requirements binding on a TSDF will be included in the facility's waste analysis plan. The proposed plan elements are reviewed as part of the permit review process. Therefore, TSDF owners/operators and permit writers should ensure that the plan precludes redundant testing that could result in unnecessary radiation exposure.

Verification inspection and, if necessary, testing of off-site, mixed waste is required by TSDF owners/operators to ensure that it matches the identity of the waste specified on the accompanying LDR notification or manifest. Usually, general inspection of the incoming waste will be adequate. If analysis is required, the NRC and EPA suggest two strategies to minimize radiation and hazardous waste exposure: (1) representative drum sampling (if all the drums contain identical wastes) and (2) "fingerprint analysis." "Fingerprint analysis" (i.e., monitoring pH, water content, etc.) is recommended for mixed waste streams with high radiation levels.

Determining Land Disposal Restrictions

Generators of mixed wastes must determine if their wastes are subject to land disposal restrictions (LDRs). These LDR wastes can be land disposed if they meet applicable treatment standards or are subject to a variance from applicable standards. These determinations can be made either through reliance on waste knowledge or waste testing.

Owners/operators of treatment facilities must test their wastes to determine if they meet applicable treatment standards or prohibition levels, unless the treatment standard is a specified technology. Similarly, owners/operators of land disposal facilities must conduct tests to determine that only wastes meeting treatment standards are land disposed unless the treatment standard is a specified technology.

The EPA LDR Third Rule allows flexibility in testing frequency and recommends reduced testing when initial analyses are available or there is little or no variation in the processes that generate or treat waste. The authors of the guidance document stress the use of this flexible approach whenever possible.

Background Information

The Department of Energy commented extensively on the draft of this guidance document in May 1992 (Letter to EPA, Consolidated DOE Response to NRC/EPA Draft Guidance "Clarification of RCRA Hazardous Waste Testing Requirements for Mixed Wastes," June 19, 1992). The key elements of the Department's comments (surrogate testing, smaller sampling sizes, total constituent analysis, fingerprint analysis, and reliance on process knowledge) are all addressed in the final guidance.

Copies of the joint guidance document are available from the following sources:

- 62 Federal Register (FR) 62079, November 20, 1997
- EPA Home Page *(http://www.epa.gov/radiation/mixed-waste/docs/testing.pdf)*

For further information, please contact Steven Woodbury, (202) 586-4371, fax: (202) 586-3915, or e-mail *(steve.woodbury@hq.doe.gov).*

Worker Health and Safety Web Site Redesigned

The Department of Energy (DOE) Worker Health and Safety (WHS) Web Site has been redesigned to better focus on and advance health and safety throughout the DOE community. Enhancements include the new "HOT ITEMS" feature, with periodic Deputy Assistant Secretary messages. Read "HOT ITEMS" to learn at a glance about recent and upcoming WHS news and events. Sign up on the WHS "HOT ITEMS" listserver to receive an e-mail message listing weekly featured topics. Visit other safety and health corporate programs, such as VPP (Voluntary Protection Program) and FEOSH (Federal Employee Occupational Safety and Health Program), and browse "Communications" to submit a question to the Response Line or obtain WHS publications off the Bookshelf. To take advantage of these and other WHS Web Site services, visit the site at *http://tis-nt.eh.doe.gov/whs/.*

1998 Fire Safety Workshop

Over 130 Federal and contractor fire protection and emergency services professionals attended the annual Department of Energy (DOE) Fire Safety Workshop in Idaho Falls, Idaho, June 8-12, 1998. The meeting provided a forum for the Department's fire safety professionals to discuss common issues, such as program management, emergency response, fire research results, testing and maintenance, and fire protection technological developments.

This year's agenda featured discussions on (1) the impact of privatization initiatives and corporate changes on site fire safety programs, (2) new ES&H directives and industry standards, (3) computer-based fire safety training and fire-protection-related electronic resources, (4) research results on the effects of fire and smoke on electronic components and special nuclear materials, (5) field and Headquarters initiatives, and (6) fire department master planning, as well as other related issues.

Other workshop events included an open session to discuss progress on the DOE Fire Safety Committee's 1998 agenda (including the May 14, 1998, issuance of a Secretarial Memorandum on Fire Safety Programs) as well as two "short courses" on fire/arson investigation techniques and recent code and technological developments related to automatic fire suppression systems.

A copy of the workshop proceedings can be obtained by contacting either Dennis Kubicki, Office of Occupational Safety and Health Policy, at (301) 903-4794, e-mail *(dennis.kubicki@eh.doe.gov)* or Jim Bisker, Office of Occupational Safety and Health Policy, at (301) 903-6542, e-mail (jim.bisker@hq.doe.gov).

Fernald Workers Updated on Site Epidemiologic Surveillance Report

Drs. Clifton Strader and Bonnie Richter of the Office of Epidemiologic Studies (EH 62) presented an update on the health and safety of the Fernald Environmental Management Project's workforce at the site on July 8, 1998. The presentation to Fernald workers included highlights from the Office's recently released 1995 Annual Epidemiologic Surveillance Report. Overall rates of illness and injury among Fernald workers were within the range observed at other participating sites, but the number of nonoccupational injuries reported between 1993 and 1995 increased substantially. The upward trend was present for both men and women in the workforce, but injury rates were substantially higher among women. The highest rates for both women and men were found among hazardous waste workers. As a followup, Dr. Richter is evaluating injury data on these workers in greater detail, and the results of the evaluation will be issued as a special Epidemiologic Surveillance Report.

Fernald is 1 of 12 sites that participate in the Epidemiologic Surveillance Program, which monitors both occupational and nonoccupational illness and injury among current workers to identify groups of workers who may be at increased risk for injury or illness. The program addresses health concerns raised by workers, site medical staff, line management, and other stakeholders, and also provides a means by which the effectiveness of corrective actions can be measured. The Epidemiologic Surveillance Program maintains the Department of Energy's only multisite health information database linked to current workers. For more information about this program, please contact Dr. Strader, Office of Epidemiologic Studies at (301) 903-5799 or e-mail *(cliff.strader@eh.doe.gov).*

DOE Fire Departments Receive Awards

The Rocky Flats Fire Department was awarded the first annual Walter W. Maybee Award for fire protection at the 1998 Department of Energy (DOE) Fire Safety Workshop. The award was created to acknowledge the outstanding contributions of individuals or groups toward the goals of enhanced fire safety, increased knowledge of fire and its consequences, development of more effective and efficient fire safety programs, and other worthy fire protection achievements within DOE. It is awarded based on recommendations to the DOE Fire Safety Committee and their subsequent nominations to the Chairman. Members of the Rocky Flats Fire Department were recognized for their dedication, courage, professionalism, and innovation in the pursuit of their responsibilities for providing timely and effective onsite emergency services under difficult conditions.

The National Fire Protection Association (NFPA) Industrial Section voted Idaho National Engineering and Environmental Laboratory Fire Department as having the "Most Effective Industrial Fire Prevention Week Program" (for 1997). Don Wittaker, Facilities Services Department Manager and former Fire Chief, accepted the award for the Department at NFPA's annual meeting in Cincinnati, Ohio. This industry-wide recognition seconds a recent Idaho Operations Office assessment that acknowledged the multifaceted capabilities of the Department to provide effective onsite emergency services.

(From left to right) Dennis Kubicki, DOE Fire Safety Committee Chairman; and Ron Richardson, Angelo DiLullo, and Chief Tim Parker, Rocky Flats Fire Department; after presentation of the Walter W. Maybee Award at the 1998 DOE Fire Safety Workshop.

The Fourth Integrated Safety Management Lessons Learned Workshop

The Fourth Integrated Safety Management Lessons Learned Workshop, "Field Successes in Achieving Integrated Safety Management Through Outstanding Environment, Safety and Health Performance" is scheduled for October 20-22, 1998, at the Radisson Hotel in New Orleans, Louisiana. For more information, access *http://tis.eh.doe.gov/ism/.*

Bioassay/Internal Dosimetry Workshop

An October 27-28, 1998, Bioassay/Internal Dosimetry Workshop focuses on "Improving Bioassay and Internal Dosimetry within the DOE." For more information, visit the workshop web site at *http://tis.eh.doe.gov/whs/bio/workshop.html.*

A Joint Chemical Safety Issues Workshop

A Joint Chemical Safety Issues Workshop is scheduled for November 3-5, 1998, at the Energy Training Complex in Albuquerque, New Mexico. For workshop information, access *http://tis.eh.doe.gov/web/chem_safety/.*

1998 Training Resources and Data Exchange (TRADE) Training Management Workshop

The 1998 TRADE Workshop is being held on November 3-5 at the Double Tree Hotel in Pasco, Washington. Interactive workshops, small group discussions and exhibits are available to highlight web-based training, best practices, and performance measures. Register by telephone at 1-800-201-7202 or (509)-372-7200.

Occurrence Reporting Special Interest Group

On November 16-19, 1998 the Occurrence Reporting Special Interest Group will meet in Albuquerque, New Mexico. This first stand alone fall meeting will include computer training and general meetings. For online registration, meeting agenda and hotel information access *http://www.orau.gov/or/fallmtg98/index.html* or call Leesa Arrowood from ORISE at (423) 576-0595.

Oak Ridge Hosts Pilot Facility Disposition Workshop

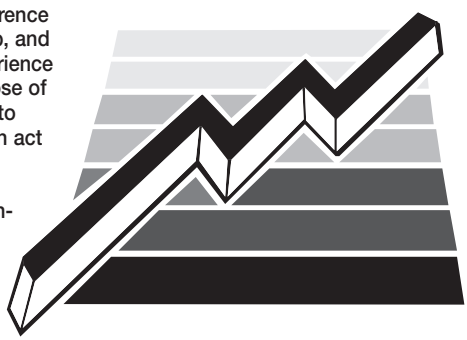
The Department of Energy (DOE) Office of Environment, Safety and Health (EH), Oak Ridge Operations Office (DOE-OR), and National Environmental Training Office (NETO) developed a pilot workshop, entitled "Facility Disposition Principles: Integrating Safety and Enhancing Project Cost Effectiveness," and hosted it on July 28-29, 1998, at the Oak Ridge National Laboratory. The objectives of the pilot were to discuss application of integrated safety management concepts to facility disposition activities as addressed by DOE-STD-1120-98, "Integration of Environment, Safety and Health into Facility Disposition Activities"; provide current lessons learned on cost-effective methods for streamlining disposition activities; address implementation and integration of ES&H and project management requirements as addressed by revisions to DOE O 430.1A, "Life Cycle Asset Management"; and obtain feedback from a selected audience of DOE and contractor project managers, safety and health personnel, and worker representatives regarding the format and effectiveness of pilot workshop materials.

A primary theme of the workshop was the integration and streamlining of work activities so that disposition work can be accomplished safely and cost-effectively. Additionally, case studies of actual implementation issues were examined, including management of project and hazard uncertainties, as well as integration of hazard/safety analyses and documentation. Attendees also shared many of the specific issues and experiences associated with Oak Ridge decommissioning projects.

Two follow-on workshops are planned to be held in Oak Ridge, Tennessee. Due to the success of the pilot, preliminary planning is also underway to conduct the workshop at as many as six additional sites. For more information, contact P.K. Niyogi, Office of Facility Safety Analyses, at 301-903-2421, John Bascietto, Office of Environmental Policy and Assistance, RCRA/CERCLA, at 202-586-7917, or Tony Eng, Office of Field Support, at 301-903-4210.

DOE Operating Experience Data Analysis Forum

The Office of Operating Experience Analysis and Feedback, in cooperation with the Occurrence Reporting Special Interest Group, Performance Based Management Special Interest Group, and the Society for Effective Lessons Learned Sharing, is sponsoring the DOE Operating Experience Data Analysis Forum, to be held on January 26-28, 1999, in Las Vegas, Nevada. The purpose of the forum is to share innovative techniques for collecting meaningful data, analyzing data to reveal useful insights, and presenting clear and concise results so that decisionmakers can act and/or the public can be informed.



You or your organization is invited to participate in the forum through a stand-alone presentation, panel discussion, or display. Details concerning submission of abstracts, on-line registration, and hotel reservations, are available at the following INTERNET address: *http://tis.eh.doe.gov/web/oeaf/workshop.* If you have any questions or desire additional information on the forum, please contact Richard Day at (301) 903-8371.

EH-5 News Briefs

A **Bioassay/Internal Dosimetry Workshop** will be held on October 27-28, 1998, in Gaithersburg, Maryland. For more information, including the call for papers, abstract submittal, and directions, or to register electronically, visit the Workshop Web Site at *http://tis-nt.eh.doe.gov/whs/bio/workshop.html.*

Voluntary Protection Program (VPP) onsite evaluations were conducted at the Waste Isolation Project Plant (WIPP) (re-evaluation) on August 3-7, 1998, and Wackenhut Services Savannah River on August 10-14, 1998. For more information on these or other VPP site visits and activities, contact the DOE-VPP office at 301-903-6493 or visit the DOE-VPP Web Site at *http://tis-nt.eh.doe.gov/vpp.*

A **DOE Headquarters Health Fair,** "Health and Safety in the New Millennium: An Opportunity for Education," was held concurrently on September 16, 1998, from 9:00 a.m. to2:00 p.m. at the Forrestal and Germantown facilities to educate and exchange information among Federal, industry, and community partners. The Federal Employee Occupational Safety and Health (FEOSH) Program display will showcase workplace safety and health issues with the objective of educating DOE Headquarters employees on workplace injury and illness prevention. Awareness posters and pamphlets featured dominant workplace illnesses and injuries, causes, and practical means of identifying and correcting job-related hazards at DOE Headquarters. Safety and health professionals were on hand to offer assistance and information on a variety of topics, including workstation ergonomics.

Former **Secretary of Energy Peña signed the Notice of Proposed Rulemaking (NOPR) to establish a Chronic Beryllium Disease Prevention Program** (CBDPP) on June 30, 1998. The NOPR was subsequently transmitted to the Office of Management and Budget (OMB) for review and will be published in the Federal Register (*http://www.access.gpo.gov/su_docs/aces/aces140.html*) for formal public comment once approved. A copy of the NOPR will also be available on the DOE CBDPP Web Site at *http://tis-nt.eh.doe.gov/be/.* During the 90-day public comment period, the Department will hold three public hearings, tentatively scheduled to be held in Oak Ridge, Tennessee; Denver, Colorado; and Washington, DC. Instructions for submitting comments are included in the NOPR. For additional information, contact Ed Patigalia, EH-52, at 301-903-3972 or *ed.patigalia@eh.doe.gov.*

OSHA Revised Respiratory Protection Standard

The Occupational Safety and Health Administration (OSHA) revised the respiratory protection standard on January 8, 1998. The final standard, Title 29 Code of Federal Regulations Part 1910.134 (29 CFR 1910.134) requires full compliance by October 5, 1998. This revised standard is estimated to annually prevent more than 4,000 injuries and illnesses. About 5 million American workers in 1.3 million establishments (mostly manufacturing) in OSHA-regulated industry sectors, except agriculture, will be covered by the new requirements.

Department of Energy (DOE) sites are presently required by DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees, March 27, 1998, to implement the OSHA respirator standard and American National Standards Institute (ANSI) Z88.2, *Practices for Respiratory Protection.* ANSI Z88.2 is more protective and current on respiratory protection technologies than the former OSHA respiratory standard. The newly revised standard, 29 CFR 1910.134, incorporates many requirements from the ANSI standard.

The new OSHA standard reflects current respirator technology and better ways to ensure respirator fit. It clarifies the responsibility for administering a respirator program and its provisions; adds definitions; and provides specific guidance on respirator selection, respirator use, hazard evaluation, medical evaluations, fit testing, training, and program evaluation. It also addresses the use of respirators in Immediately Dangerous to Life or Health (IDLH) atmospheres, including firefighting. The standard states that during interior structural firefighting (an IDLH atmosphere), at least two firefighters must enter and remain in visual and voice contact with each other at all times, and two additional firefighters must remain outside.

For DOE, the revised OSHA standard reduces the number of semiannual fit tests because all negative pressure and tight-fitting positive pressure respirators must be fit tested before use, and then annually thereafter. The revised standard also permits the use of one valid quantitative fit test, instead of three tests, as previously required under the OSHA lead and asbestos standards.

To obtain more information on the revised OSHA respirator standard, you can electronically submit a question via the Internet at or contact Dan Marsick, Office of Occupational Safety and Health Policy, at (301) 903-3954 or by e-mail *(dan.marsick@eh.doe.gov).*